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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,075	02/11/2002	Marcus Dibuduo	09752-163001	6671

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EXAMINER

TRINH, SONNY

ART UNIT PAPER NUMBER

2685

DATE MAILED: 08/27/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/074,075

**Applicant(s)**

DIBUDUO, MARCUS

**Examiner**

Sonny TRINH

**Art Unit**

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. **Figures 1-2** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-5, 9-10, 13-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes ("Hughes"; U.S. Patent Number 6,122,334) in view of Kagawa (European Patent Application EP 0431 900 A2).

Regarding **claim 1**, Hughes discloses a method of filtering a pilot signal in a wireless communication system (abstract, columns 2-3, figure 2) comprising:

providing a signal to a first filter to generate a filtered output (figure 2, see detailed description in column 5). However, Hughes does not explicitly disclose the step of activating a second filter when the filtered output is within a predetermined range of the threshold value.

In an analogous art, Kagawa discloses a filter circuit. With reference to figure 1 and description on pages 4-5, Kagawa further teaches a second filter that can be activated based on a comparison of the first filtered output (figure 1). Therefore, it would have been obvious and well within the level of a person of ordinary skill in the art at the time the invention was made to incorporate the second filter, as taught by Kagawa, to the system of Hughes so that the amount of filtering can be adjusted.

Regarding **claim 2**, since the filter has finite passband, it is obvious and well within the level of a person with ordinary skill in the art to provide a nearly constant filter length of the first filter, since additional filtering can be done with the teaching of Kagawa.

Regarding **claim 3**, it is inherent in Hughes that the filter removes demodulator noise.

Regarding **claim 4**, Kagawa further teaches the setting of the time constant of the second filter based on input energy estimates (figure 1, the voltage energy is compared in order to enable the second filter section).

Regarding **claim 5**, Hughes further teaches the setting of the time constant of the second filter based on searcher (i.e, "window size", figure 2A, columns 5-6).

Regarding **claim 9**, the combination of Hughes and Kagawa discloses the invention but does not explicitly disclose the bypassing of the second filter when the filtered output is beyond the predetermined range of the threshold value. However, since the combination discloses that the second filter is activated when the filtered output is within a predetermined range of a threshold value, it is obvious that the second filter is bypassed when the filtered output is beyond the predetermined range of the threshold value.

Regarding **claim 10**, Hughes further teaches the setting of the threshold value to T\_DROP (column 5).

Regarding **claim 13, 15-19**, these claims merely specify the mobile station employing the filter method as specified in claims 1-5, 9 (respectively), the mobile station is taught by Hughes (column 1). Therefore, these claims are rejected for the same reasons as given above.

Regarding **claim 14**, Hughes further teaches the first filter receives energy values from the pilot signal energy (column 3 line 55 to column 4 line 19). The demodulator is inherent in a receiver.

3. **Claims 6-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes ("Hughes"; U.S. Patent Number 6,122,334), as modified by Kagawa (European Patent Application EP 0431 900 A2) and in further view of Funderburk et al. ("Funderburk"; U.S. Patent Number 6,377,585).

Regarding **claim 6**, the combination of Hughes and Kagawa discloses the invention but does not explicitly disclose the setting of a dynamic time constant for the second filter.

In an analogous art, Funderburk discloses a precision reference generation system that tracks a CDMA pilot signal and extracts frequency and phase information. With reference to figure 3 and its description, Funderburk further teaches the setting of a dynamic time constant for the second filter (column 4, specifically lines 28-37).

Therefore, it would have been obvious and well within the level of a person of ordinary skill in the art at the time the invention was made to incorporate the step of setting of a dynamic time constant for the second filter, as taught by Funderburk, to the system of Hughes and Kawaga to accommodate fast acquisition and also to allow for long averaging once the input of the second filter is tracked.

Regarding **claim 7**, the combination of Hughes, Kagawa and Funderburk discloses the invention but does not explicitly disclose the setting the dynamic time constant of the second filter based on input energy estimates. However, the dynamic time constant depends on the input energy (time needed to charge the capacitor) is well known in filter design and would have been obvious and well within the level of an ordinary skill person in the art.

Regarding **claim 8**, Hughes further teaches the setting of the time constant of the second filter based on searcher (i.e, "window size", figure 2A, columns 5-6).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 11-12** are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for using the second filter, does not reasonably provide enablement for the filter type (N-1)/N as specified in claim 11. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The specification does not specify what "N" is.

***Allowable Subject Matter***

5. **Claim 20** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Regarding **claim 20**, the prior art provided numerous examples of filtering the pilot signal energy, but failed to disclose or fairly suggest the specific combination of structural and functional limitations set forth in claim 20, specifically, wherein the second filter is provided to a pilot set maintenance function.

### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sonny TRINH whose telephone number is 703-305-1961. The examiner can normally be reached on Monday-Thursday and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed URBAN can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**SONNY TRINH**  
**PRIMARY EXAMINER**

8/13/04